

Thanks
Brian

Date: 4 Jul 93 22:47:33 GMT
From: news-mail-gateway@ucsd.edu
Subject: ANS-184 BULLETINS
To: info-hams@ucsd.edu

SB SAT @ AMSAT \$ANS-184.01
AMSAT JOURNAL NEEDS FD PHOTOS

HR AMSAT NEWS SERVICE BULLETIN 170.01 FROM AMSAT HQ
SILVER SPRING, MD JUNE 19, 1993
TO ALL RADIO AMATEURS BT
BID: \$ANS-184.01

WA0PTV Would Like Photos Of Your FD Satellite Station For The AMSAT Journal

If you operated a satellite station in conjunction with Field Day, please don't forget to send your entry in for the AMSAT contest. But please don't stop there. WA0PTV would like to put a page of photos of representative satellite Field Day stations in an upcoming the AMSAT Journal and would also like to publish a short section of comments by those who participated. WA0PTV would greatly appreciate if you happened to take any photos of your FD setup to send him a copy of whatever you have available. High contrast photos will appear best in print, but please send in whatever you have. Also, please send in any comments or observations you had about this year's FD exercise. Your comments can also be sent to him via INTERNET at his address of wa0ptv@amsat.org if you wish. However, photos will need to be mailed. WA0PTV's postal address is as follows:

John Hansen (WA0PTV)
49 Maple Avenue
Fredonia, NY 14063

Here's a chance for your FD group to receive the world wide coverage it deserves. The ARRL receives so many photos that the odds of your's showing up in QST are very remote, but your odds of making the AMSAT Journal are much greater.

/EX
SB SAT @ AMSAT \$ANS-184.02
NEW AO-13 ZRO LEVEL BROKEN

HR AMSAT NEWS SERVICE BULLETIN 170.02 FROM AMSAT HQ

SILVER SPRING, MD JULY 2, 1993
TO ALL RADIO AMATEURS BT
BID: \$ANS-184.02

With Digital Signal Processing (DSP) A New ZRO Test Record Has Been Broken

Darrel Emerson (AA7FV) has received confirmation as to being the first station to successfully receive the ZRO Level "A" code blocks. Most A0-13 operators are familiar with the ZRO tests which occur a few times per year. These tests assist in determining station receive sensitivity by sending CW blocks in 9 increments, beginning with signal strength equivalent to the A0-13 beacon (ZRO Level 0), and decreasing in 3 dB steps down to Level 9, which is 27 dB below the beacon signal strength. AA7FV was part of an experiment undertaken by Andy MacAllister (WA5ZIB) to see whether a signal at 30 dB below beacon strength (Level A) could be copied. After considerable digital analysis of the recorded signal, AA7FV successfully determined the content of the code blocks and received confirmation of his copy from WA5ZIB.

The equipment used at AA7FV to receive the Mode-B ZRO signals is a slightly worse than the average A0-13 station. The antenna is a 10x10 element circularly polarized yagi, with 30 ft of RG-8 feeder to an ARR preamp in the shack. The 2M receiver is a transverter feeding an FT-102 HF transceiver and using a 250 Hz bandwidth CW filter. Data from the A0-13 ZRO tests were digitized using a cloned Soundblaster card, giving 4000 8-bit samples per second, which were analyzed off-line after the test. The data processing used software written in FORTRAN specifically for the ZRO tests, running mainly on a 386 PC. A variety of DSP algorithms were used, taking many hours of computing time -- this is not real-time processing! In this test, without the software processing, the ZRO signal could barely be copied by ear through the CW filter at Level 7. The software processing gives about a 10 dB improvement in S/N over the human ear alone, enabling accurate copy of the ZRO level "A" data.

The next project for AA7FV is to try to make the software more user friendly, and to run in real time. There are obvious applications to EME reception.

WA5ZIB notes that by no means must the ZRO test be done in real time. With the proliferation of DSP technology and access to fast computers, the methods for analyzing the ZRO test signals are as unlimited as the user's imagination and any method of extracting the code blocks, eg., using superDSP's and a Cray YM-P for software based analysis of the data, is completely "legal."

[The AMSAT News Service (ANS) would like to thank Dave Burnett (WD8KRV) for this bulletin item.]

/EX

SB SAT @ AMSAT \$ANS-184.03

AMSAT OPS NET SCHEDULE

HR AMSAT NEWS SERVICE BULLETIN 170.03 FROM AMSAT HQ

SILVER SPRING, MD JULY 2, 1993

TO ALL RADIO AMATEURS BT

BID: \$ANS-184.03

AMSAT Operations Net Schedule

AMSAT Operations Nets are planned for the following times. Mode-B Nets are conducted on AO-13 on a downlink frequency of 145.950 MHz.

Date	UTC	Mode	Phs	NCS	Alt NCS
10-Jul-93	1300	B	90	WJ9F	VE2LVC
17-Jul-93	1800	B	119	VE2LVC	W9ODI
24-Jul-93	1930	B	70	N7NQM	W5IU
31-Jul-93	1300	B	98	WB6LLO	WA5ZIB

Any stations with information on current events would be most welcomed. Also, those interested in discussing technical issues or who have questions about any particular aspect of OSCAR statellite operations are encouraged to join the OPS Nets. In the unlikely event that either the Net Control Station (NCS) or the alternate do not call on frequency, any participant is invited to act as the NCS.

Slow Scan Television on AO-13

SSTV sessions will be held on immediately after the OPS Nets a downlink on a Mode-B downlink frequency 145.960 MHz.

/EX

SB SAT @ AMSAT \$ANS-184.04

WEEKLY OSCAR STATUS REPORTS

HR AMSAT NEWS SERVICE BULLETIN 170.04 FROM AMSAT HQ

SILVER SPRING, MD JULY 2, 1993

TO ALL RADIO AMATEURS BT

BID: \$ANS-184.04

Weekly OSCAR Status Reports: 03-JUL-93

AO-13: Current Transponder Operating Schedule:

L QST *** AO-13 TRANSPONDER SCHEDULE *** 1993 Jun 27-Jul 10

Mode-B : MA 0 to MA 20 !
Mode-S : MA 20 to MA 30 !<- S transponder; B trsp. is OFF
Mode-B : MA 30 to MA 256 ! Attitudes:
Mode- : MA ! Jul 03 135/0
Mode- : MA ! Jul 10 140/0
Omnis : MA 170 to MA 10 ! Jul 17 145/0
Please don't uplink to Mode-B during MA 20-30 because it will interfere
with Mode-S operations. [G3RUH/DB20S/VK5AGR]

MIR: A Soyuz TM-17 blasted off from the Baikonur cosmodrome in Kazakhstan this past Thursday with two Russians and a Frenchman aboard. The cosmonauts -- Vasily Tsiblyev (R3MIR) and Alexander Srebrov (R4MIR) of Russia and Jean-Pierre Haignere of France -- will join Gennadi Manakov (U9MIR) and Alexander Poleshchuk (R2MIR) who both have been aboard MIR for 161 days. The docking operations which were completed by 16:24 UTC on Thursday and were broadcasted live by television and also received at the Paris headquarters of the French space agency, CNES. After conducting experiments aboard MIR for 18 days, U9MIR and R2MIR will return to Earth on 22-JUL-93 along with Haignere. R3MIR and R4MIR will remain in the space station until the end of the year. In other news about MIR operations, UA3CR reports that the cosmonauts are "sticking" with the standard MIR downlink frequency of 145.550 FM simplex and will no longer make use 145.850 MHz. While the cosmonauts had been experimenting for a short time with using 145.850 MHz, they quickly realized they were creating a great deal of QRM to many OSCAR satellite users on this frequency with their QS0s. Therefore, they will only use 145.550 MHz only. [LW2DTZ/UA3CR/N1MDZ]

A0-16: Operating normally. [WH6I]

U0-22: Operating normally. [WH6I]

K0-23: Operating normally. [WH6I]

F0-20: The transponder schedule will return to its usual modes of operation now that Field Day weekend has passed. Wednesdays will be the analog mode (JA) and the digital mode (JD) will be at all other times. NONBH reminds all F0-20 users to PLEASE DISCONNECT BEFORE THE END OF THE PASS! He says that you should always make a "clean" disconnect before F0-20 travels over the horizon from your QTH. If you fail to disconnect, the F0-20 BBS will perform the disconnect itself after about 15 minutes of no activity from your station. However, during this time the BBS will not let anyone else log in until the disconnect has been performed. Thus, you will be limiting F0-20's operational capabilities for all users. Please remember to disconnect before LOS. [NONBH]

A0-21: KD8PH notes that A0-21 is quite busy on the early morning passes. He also notes that when A0-21 does becomes highly congested there is no "gentlmanly" protocol agreed upon by A0-21 users to handle this problem.

If you have suggestions about how such a protocol should be implemented, please send them KD8PH @ N9AZZ so that they can be discussed and published in the AMSAT News Service (ANS) bulletins. The resulting lack of a protocol on AO-21 is causing a reduction in operating pleasure for all users of AO-21. [KD8PH]

The AMSAT NEWS Service (ANS) is looking for volunteers to contribute weekly OSCAR status reports. If you have a favorite OSCAR which you work on a regular basis and would like to contribute to this bulletin, please send your observations to WD0HHU at his CompuServe address of 70524,2272, on INTERNET at wd0hhu@amsat.org, or to his local packet BBS in the Denver, CO area, WD0HHU @ W0LJF.#NECO.CO.USA.NOAM. Also, if you find that the current set of orbital elements are not generating the correct AOS/LOS times at your QTH, PLEASE INCLUDE THAT INFORMATION AS WELL. The information you provide will be of value to all OSCAR enthusiasts.

/EX

Date: Sun, 4 Jul 1993 05:26:14 GMT
From: amdcad!amdc12!brian@decwrl.dec.com
Subject: field strength vs. watts out
To: info-hams@ucsd.edu

I'm interested in building a part 15 device (so it can be legally operated by non-hams), but I'm having difficulty understanding the power limits in part 15. I got a copy of the part 15 regs, and all of the power limitations are stated in microvolts per meter at N meters rather than as output power to some standard radiator. The basic reference books that I've checked (the ARRL handbook and antenna book) don't really discuss field strength as something to be measured on an absolute scale. I'm looking for a "rule of thumb" conversion from watts applied to an isotropic radiator (or dipole) to field strength at N meters so that my first pass at design will be within an order of magnitude of the allowed limit. Any pointers to info appreciated.

Thanks,
Brian McMinn N5PSS brian.mcminn@amd.com

Date: Sun, 4 Jul 1993 19:06:52 +0000
From: pipex!bnr.co.uk!demon!llondel.demon.co.uk!dave@uunet.uu.net
Subject: field strength vs. watts out
To: info-hams@ucsd.edu

In article <C9MKFr.K2u@amdc12> brian@amdc12.amd.com (Brian McMinn N5PSS) writes:

> I'm interested in building a part 15 device (so it can be legally
> operated by non-hams), but I'm having difficulty understanding the
> power limits in part 15. I got a copy of the part 15 regs, and all of
> the power limitations are stated in microvolts per meter at N meters
> rather than as output power to some standard radiator. The basic
> reference books that I've checked (the ARRL handbook and antenna book)
> don't really discuss field strength as something to be measured on an
> absolute scale. I'm looking for a "rule of thumb" conversion from
> watts applied to an isotropic radiator (or dipole) to field strength
> at N meters so that my first pass at design will be within an order of
> magnitude of the allowed limit. Any pointers to info appreciated.
>

As a rough guide, you can work out the power density and use the normal

Power = Volts*Volts/Resistance where the resistance is assumed to be
377 ohms (impedance of free space). To get the power density you just
work out the surface area of a sphere of the required radius and divide
it by the power. You obviously need to allow for any gain which your
radiating element might have. Note that other things can affect the accuracy
of the above because it really only applies to an isotropic radiator in
free space.

Dave

```
*****
* G4WRW @ GB7WRW.#41.GBR.EU AX25      *   You think *you* have problems?   *
* dave@llondel.demon.co.uk Internet *   What do you do if you *are*       *
* g4wrw@g4wrw.ampr.org      Amprnet *   a manically depressed robot??    *
*****
```

Date: 4 Jul 1993 23:42:08 GMT
From: w1gsl@athena.mit.edu
Subject: New England Ham - Electronic Fleamarket Dates 4 July Update
To: info-hams@ucsd.edu

New England Area Major Flea Market *** DATES *** 1993 P 1 of 2
All events are Ham Radio/ Electronic related except ~____~

```
*****
1993                                     Contact      Source
*****
11 July Brewster NY Pearlfest @HS 8A buy $5 s $12 Shirly N2SKP 914 736 0717 F

17 July Nashua NH NE Antique RC $5@8 $1@9 @ Res Ctr Church Ray 508 865 1290

17 July Union ME @ Fairground $3@7AM State Conv Skeet KA1LPW 207 622 2915
```

18 July Cambridge MA	FLEA at MIT	Nick 617 253 3776 F
buy \$2@9A sellers \$10/sp@7A \$8in adv		
3rd Sunday Each Month April thru October		
24,25 July Manchester NH	NHARA @HI 8A\$4 300Ts (no TG)	WB1HBB 603 432 6011 F
31 July Newport NH	Sugar River AR Fest S\$5@7 B\$2@8-	Bob N1CIR 603 863 5383 F+
8 Aug White Plains NY	WECAfest	Sarah N2EYX 914 962 9666 D
8 Aug Wellseley MA	WARS @Babson Col S\$5@7 \$2@9 \$1@10	Barry WN1N 508 877 4947 F+
13-15 Aug Vernon CT	Eastern VHF/UHF conf @ Quality Inn 8A	
14 Aug St Albans ME	@ Snow Mobile Club	Hitch K1HHC 207 796 2282
14 Aug Charlotte VT	@Old Lantern CG 8A- \$5 su 3P Fri	Dave N1ERD 802 893 7660 F+
15 Aug Cambridge MA	FLEA at MIT	Nick 617 253 3776 F
28 Aug Gardner MA	MARC @Drive-in \$5@6 \$2@8	Bill WJ1Y 508 939 2643 F
29 Aug Fall River MA	BCRA @ Bank St Armory	Tom WA1LBK 508 674 4163 +
29 Aug Yonkers NY	YARC	John WB2AUL 914 969 6548 A
11 Sept Windsor ME	@ Fairground \$3@7AM	Skeet KA1LPW 207 622 2915
12 Sept Gaithersburg MD	FAR @Mg Cty FG \$5@6A- \$7TG	Nancy Drahim 703 691 0078 J
12 Sept S Dartmouth MA	SE Mass ARA 8A-	Dan N1HCV 508 933 0678
18 Sept Forestdale RI	RIFMRS @VFW 8A	Rick K1KYI 401 725 7505
18 Sept Berlin VT	CVARC @NG Armory 9-3 \$3 Ta\$8 TG\$4	Tom WA1YNU F+
19 Sept Cambridge MA	FLEA at MIT	Nick 617 253 3776 F
19 Sept Sandy Hook CT	Candlewood ARA	Harold KB1US A
22-25 Sept Rochester NY	Antique Radio Assn @Marriot	Bruce W2ICE +
25 Sept Greenbush ME	WCSN/BARC @WCSN xmtr	Ed Cockburn 207 732 4366
26 Sept Framingham MA	@ HS \$12@8 \$5@9 \$2@10	Barry WN1N 508 877 4947 F
26 Sept Yonkers NY	Metro 70 ARC	Otto WB2SLQ 914 969 1053 A

26 Sept Vernon CT Natchaug ARC Wayne N1GUS A

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LAST UPDATE 7-4-93 de W1GSL P 1 of 2  
\*\*\*\*\*  
Additions/ Corrections via Internet w1gsl@athena.mit.edu  
US Mail W1GSL POB 82 MIT Br Cambridge MA 02139  
SASE for updated copy as issued.

| 1993                                                                        | Contact                  | Source |
|-----------------------------------------------------------------------------|--------------------------|--------|
| *****                                                                       |                          |        |
| 3 Oct Queens NY Hall of Science ARC 47-01 111st                             | Arnie WB2YXB             | A      |
| 10 Oct Durham CT Nutmeg @FG 4pm sat set up                                  | Jim N1IZF 203 349 3353   | F      |
| 10 Oct Poughkeepsie NY Mt Beacon ARC                                        | Ken KL7JCQ 914 485 9617  | A      |
| 15,16 Oct Rochester NH Hoss Traders @FG ex13 off rt 16 \$5 noon fri         |                          | K1RQG  |
| 17 Oct Cambridge MA FLEA at MIT<br>3rd Sunday Each Month April thru October | Nick 617 253 3776        | F      |
| 23,24 Oct Waltham MA Photographica 10-5 \$5 "photo" (bef 9PM)               | 617 965 0807             | F      |
| 30 Oct Nashua NH NE Antique RC \$5@8 \$1@9 @ Res Ctr Church                 | Ray 508 865 1290         |        |
| 13 Nov Plymouth MA Mayflower RC @Mem Hall 9-3 sell@8                        | Jim NM1F 508 747 2224    |        |
| 13 Nov Boston MA Metro Radio Sys 808 Comm Av 11-5 s\$35                     | Julie 617 969 3000       | +      |
| 14 Nov Branford CT SCARA @intrm sch                                         | Brad WA1TAS 203 265 9983 | T      |

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1994	Contact	Source

22 Jan Nashua NH NE Antique RC \$5@8 \$1@9 @ Res Ctr Church	Ray 508 865 1290	
27 Feb Westford MA Boston Antique RC	John 508 371 0512	T
17 April Cambridge MA FLEA at MIT 3rd Sunday Each Month April thru October	Nick 617 253 3776	F
29 30 April 1 May Dayton OH		F
15 May Cambridge MA FLEA at MIT	Nick 617 253 3776	F
5 June Newington CT @HS Flea + ARRL HQ OH	Al N1JWF 203 747 1925	T+
19 June Cambridge MA FLEA at MIT	Nick 617 253 3776	F

17 July Cambridge MA	FLEA at MIT	Nick 617 253 3776 F
21 Aug Cambridge MA	FLEA at MIT	Nick 617 253 3776 F
18 Sept Cambridge MA	FLEA at MIT	Nick 617 253 3776 F
1-2 Oct Boxboro MA	NE Div Conv.	Gene W1VRK A
16 Oct Cambridge MA	FLEA at MIT	Nick 617 253 3776 F

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 LAST UPDATE 7-4-93 de W1GSL P 2 of 2

Source F= Flyer J= John Roberts list A= ARRL list WR NV 73 CQ QST = Mags  
 T= tentative early info D= W1DL + = new info this month

This list has been compiled from many sources. While we believe the info to be accurate the author can not be responsible for changes or errors.

Check with the sponsoring organizations for more details.

This list will be posted monthly to Usenet if additions have been made.

Mailed copies are sent when additions are made.

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Additions/ Corrections via Internet w1gsl@athena.mit.edu  
 TCPIP w1gsl@gw.w1mx.ampr.org  
 AX.25 w1gsl@walphy.#ema.ma.usa  
 US Mail W1GSL POB 82 MIT Br Cambridge MA 02139  
 SASE for updated copy as issued.

-----  
 Date: Sun, 4 Jul 93 23:24:07 GMT  
 From: mnemosyne.cs.du.edu!nyx!mwgordon@uunet.uu.net  
 Subject: Repeater coordination, complaints?  
 To: info-hams@ucsd.edu

In article <w4hx86n@dixie.com> jgd@dixie.com (John De Armond) writes:  
 >mwgordon@nyx.cs.du.edu (Mike Gordon) writes:

>  
 >> Was the other station running legal limit on a high tower?  
 >  
 >Define "legal limit", Mike. I'll give you a hint about it though.

The true legal limit is the minimum amount of power (under 1.5kw) that is needed to maintain "reasonable" communications. Of course, many hams (wrongly) equate the legal limit with the maximum power that they can EVER legally run (1.5kw). This incorrect reasoning has caused the phrase "legal limit" to be generally accepted as meaning 1.5kw. This is exactly the same thing as the general public calling all photocopiers "Xerox machines" and clear tape "Scotch tape".

>It doesn't really matter. High site-to-high site is horizon limited.

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

>A couple of watts goes about as far as a couple KW.

This is correct, but not what we are talking about. The offending repeater is on the same frequency as the poster's repeater's OUTPUT. Therefore, the signal is high site (offending repeater) to low sites (mobiles and portables).

>Running more power than the average mobile is useless  
>because the repeater can't hear the mobile.

I agree. See the last (or was it second to last) paragraph of my post.

>Every repeater trustee I've ever spoken with understands this concept.  
>Any more power wastes energy and component life and is expensive.

The people running the repeater that the original poster was referring to must not have ever spoken to you, and therefore, they are still ignorant of this concept.

>>I think not! Otherwise it would have mixed and heterodyned with your  
>>users. PL is not this magical invention that makes new frequencies. Even  
>>an HT without PL encode can heterodyne with a radio sending PL to the input  
>>of a repeater that is on PL decode. (sounds horrible, btw)

>

>If you're so close that both transmitters capture your receiver, you have  
>one option - change frequency. Or see if you can convince the other guy  
>to. You're not going to "make" anyone do anything so get that notion  
>out of your head.

Did anything in the section you quoted indicate that I was trying to make the offending repeater do anything? No.

>> I've worked with some commercial installations, and on any 'responsible'  
>>(I know how you LOVE that word John) system, the base stations do not  
>>have their receive PL gated (or they have a busy lamp) so that the  
>>operator's don't step all over other systems on their freq. Most commercial  
>>mobiles also have busy lamps, and turn off the PL decode when the mic is  
>>taken off the hook.

>

>Probably help to know what you're talking about. What you say is true only  
>on community repeaters where several subscribers use the same carrier  
>frequency but different PLs in order to create the illusion of privacy.  
>(you recall what "PL" stands for?) This has nothing to do with two separate  
>ham radio repeaters on the same frequency.

Sorry John, you're wrong on that one too. The busy lamps and mic-hook

squelch system is a standard feature of almost every commercial system I've ever dealt with. And no, it is not only for community repeaters, but any system where frequencies are shared in the same area (which is just about everywhere now). Two commercial base stations on the same freq have many of the same problems as two amateur repeaters on the same freq. Both deal with large transmitters (generally => 100 watts) on high towers, that are only interested in talking and listening to users of their system, and not the other one. They also don't want to be interfered with by the other systems on the same freq.

>> The original poster stated that the other station was running 1.5kw  
>>from a high tower, and that it DOES mix with and step on his repeater's  
>>output.

>

>No he didn't. He claimed the other machine was running the "legal  
>limit". I'll be charitable and assume he knows what the legal limit is.  
>It is obvious >>YOU<< don't. I'm still waiting for you who, in true ham  
>fashion argue vociferously from a perspective of abject ignorance, to  
>define the term. I \*know\* what the term means as applies to repeaters.  
>But I'm going to let you try and discover the meaning for yourself.

The height above average terrain/erp rule for amateur repeaters is no longer in existence.

>> This 'One Big Gun' mentality to wide coverage is flat out wrong. The  
>>right way is, of course, to link smaller machines together. Yes, it may be  
>>more expensive, require links freqs, etc. etc, but it will keep everyone  
>>happy. It will keep your signal from hitting everyone in the continental  
>>US during a band opening, and it will ensure that almost everyone who can  
>>hear the repeater can talk to it.

>

>Well, Mark, as long as we're talking about the "right" way, don't stop there.  
^^^^

That's Mike. Geez, at least know who you're flaming.

>The "Right" way is to use available frequency reuse technology and  
>have every ham repeater convert over to full digital cellular telephone-style  
>systems. Of course, we must ignore those hams for whom our "right" way  
>doesn't fit. All in the name of being "right" of course.

I was referring to a reasonable way of improving amateur radio communications, and cutting down on interference using methods within the grasp of current amateur radio standards. There is a big difference between that, and going digital cellular. Mine doesn't make every ham that wants to repeaters go out and buy new digital cellular radios.

>>"The ARRL, the Federal government, and all state governments should be  
>>required to pass all regulations, laws, and practices through a Department

>>of Common Sense." - Mike Gordon N9LOI mwgordon@nyx.cs.du.edu  
>  
>What a wonderfully ironic quote to include in an article as non-common sensical  
>as yours.

John, I would hardly consider your "sense" as being common either.

"And we'll have fun fun fun til her daddy takes the keyboard away"  
Mike Gordon N9LOI mwgordon@nyx.cs.du.edu

-----  
Date: Sun, 04 Jul 93 23:17:41 GMT  
From: gatekeeper.us.oracle.com!sgiblab!wattres!sking@uunet.uu.net  
Subject: What to do with bad Icom battery?  
To: info-hams@ucsd.edu

Today, I realized that my Icom battery BP-85 has gone kaput. That is, it no longer holds a charge. To my knowledge, I have not abused the battery in any way, or at least abused it too badly. I never ran it down to 0 VDC, or at least I I don't think I did. I always charged it used the BC-72 quick charger. Until this last charge, it worked just fine. The battery is about 2 years old, is it normal for a NiCad battery to up and stop holding a charge after a couple years of use? Would it be adventagous to send it to Icom and ask them to fix it?

I know it is not the charger going haywire because I have a couple of other similar-sized batt. packs that were charged properly.

I also have a couple Icom batt. packs whose mounting rails (just plastic) have broken. Would sending these to Icom help get them fixed or replaced?

Any advice either publicly or privately would be greatly appreciated.

73 de Steve

--  
Stephen King KC6WCH/4 (QTH: EL89tq) "The buck stops here!"  
sking@wattres.sj.ca.us -- Harry S Truman  
KC6WCH @ K4DPZ.#GNVFL.FL.USA.NA "The buck never got here!"  
ICBM: 29N 41' 26" / 82W 21' 17" -- William Jefferson Eustis Clinton

-----  
Date: 4 Jul 93 19:46:11 GMT  
From: usc!howland.reston.ans.net!noc.near.net!transfer.stratus.com!jjmhome!

schunix!kshus@network.UCSD.EDU  
To: info-hams@ucsd.edu

References <2950293698.0.p00361@psilink.com>,  
<1993Jun28.002101.27578@uhura.neoucom.edu>,  
<1993Jun28.181609.18418@newsgate.sps.mot.com>  
Subject : What is a 2CY33 or a 2C433 ??

A friend wrote me a letter from overseas asking about a transistor? with  
the part number of something like 2CY33. Does anyone know what this is, and  
where I can tell him to buy one? I seem to understand that this is part of  
a ham rig, and he needs to replace it. Any info, please email a reply. Thanks  
Chris N1AUP

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End of Info-Hams Digest V93 #819  
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